

BIRADIOLITES D'ORBIGNY, 1850 AND *DURANIA* DOUVILLÉ, 1908 (BIVALVIA): PROPOSAL TO PLACE ON THE OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY. Z.N.(S.) 1765

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Biradiolites d'Orbigny, 1850 and *Durania* Douvillé, 1908 have been two of the most widely recognized genera of the Radiolitidae for over fifty years; during this time there has been no question of their nomenclatural integrity. However, in a recent nomenclatural note (Coogan, 1966) *Durania* is said to be a junior objective synonym of *Biradiolites*, and a new generic name is proposed for the species previously placed in *Biradiolites*. The object of this petition is to conserve the generic names *Biradiolites* and *Durania* by clarifying the questions raised by Coogan about the type-species of *Biradiolites*. The facts of this case are:

2. In 1850 d'Orbigny published the generic name *Biradiolites* d'Orb. 1847* with five nominal species (in this order): *Biradiolites canaliculata* d'Orb. 1847, *Hippurites cornupastoris* DesMoulins 1826, *Biradiolites quadrata* d'Orb. 1847, *Biradiolites angulosa* d'Orb. 1847, and *Biradiolites fissicostata* d'Orb. 1847. D'Orbigny did not designate a type-species for this genus.

3. During the following half-century no unequivocal type-designation for *Biradiolites* was made. However, two conchology manuals (Woodward, 1854; Fischer, 1887) included similarly ambiguous indications, one of which has been cited as a type-designation (Fischer, 1887; cited by Coogan, 1966). Under the heading "*Radiolites*, Lamarck, 1801" Woodward (1854, p. 286) wrote:

"Sub-genus? *Bi-radiolites*, D'Orb. *R. canaliculatus* . . .",

whereas Fischer (1887, p. 1066–1067) stated under the heading "*Biradiolites*. A. d'Orbigny":

"Sections. *Biradiolites*, sensu stricto . . . [description]

(*B. cornu-pastoris*, C. des Moulins)."

Neither of these indications is a clear type-designation; contrary to the implication by Coogan (1966), Fischer did not use the word "type" in his discussion of the sections of *Biradiolites*.

4. Although Douvillé's "Classification des radiolites" provides no new nomenclatural information for this case, it has been cited in support of a proposal contra the purpose of this petition. In a historical introduction Douvillé (1902, p. 645) summarized Fischer's (1887) listing of four sections in *Biradiolites* including the species names in parentheses after each section name as in Fischer. In the classification Douvillé (p. 477), without making a nomenclatural distinction, separated *Biradiolites cornupastoris* (DesMoulins) from another three of d'Orbigny's original five species in *Biradiolites*: *angulosus*, *canaliculatus*, and *fissicostatus*.

5. Then, in 1908 Douvillé (p. 309) formally recognized the division of *Biradiolites* that he had indicated in 1902; he proposed the genus *Durania* (type-species *Biradiolites cornupastoris*, by original designation).

* D'Orbigny gives the date 1847 in his text, but the applicable parts of his "Pal. franç. Ter. crét. Tome quat." were not published until 1850.

6. The following year Toucas made the first unambiguous type-designation for *Biradiolites*. Toucas (1909, p. 98) stated under the heading " Genre *Biradiolites* d'Orbigny 1847 ":

" Le type du genre est le *Biradiolites canaliculatus* d'Orb. du Coniacien des Martigues (Bouches-du-Rhône)."

7. Since 1909 usage of rudistid paleontologists has shown the overwhelming acceptance of *Durania* Douvillé and of *Biradiolites* d'Orbigny as emended by Toucas, that is, without *Hippurites cornupastoris*. But, in 1966 Coogan contended that *Durania* Douvillé, 1908 is an objective synonym of *Biradiolites* d'Orbigny 1850. This statement is based on his belief that Fischer (1887) first listed the type-species of *Biradiolites* as *B. cornu-pastoris* [see paragraph (3) above], which is the type-species of *Durania* Douvillé by original designation. Coogan states that Fischer's type selection is confirmed by Douvillé's (1902) summary of Fischer's discussion [see paragraph (4) above]. Coogan would transfer the species now in *Durania* to *Biradiolites* and create a new generic name *Eubiradiolites* (type *Biradiolites canaliculatus*) for the species that have been correctly assigned to *Biradiolites*.

8. The basis for the nomenclatural changes proposed in the preceding paragraph is erroneous: Fischer (1887) did not validly designate *B. cornupastoris* the type-species of *Biradiolites*. In order to rectify this error, I now ask the International Commission on Zoological Nomenclature:

(1) to place on the Official List of Generic Names in Zoology:

- (a) *Biradiolites* d'Orbigny, 1850, type species by subsequent designation by Toucas, 1909, *Biradiolites canaliculatus* d'Orbigny, 1850;
- (b) *Durania* Douvillé, 1908, type species by original designation *Hippurites cornupastoris* DesMoulins, 1826;

(2) to place on the Official List of Specific Names in Zoology:

- (a) *canaliculatus* d'Orbigny, 1850, as published in the binomen *Biradiolites canaliculatus* (type-species of *Biradiolites* d'Orbigny, 1850);
- (b) *cornupastoris* DesMoulins, 1826, as published in the binomen *Hippurites cornupastoris* (type-species of *Durania* Douvillé, 1908);

(3) to place on the Official Index of Rejected and Invalid Generic Names in Zoology: *Eubiradiolites* Coogan, 1966 (an objective synonym of *Biradiolites* d'Orbigny, 1850).

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